**NSQF QUALIFICATION FILE**
(Approved in 21th NSQC dated 03 August 2018)

## CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE

**Name and address of submitting body:**

Directorate General of Training (DGT),
Ministry of Skill Development & Entrepreneurship (MoSDE)
Pusa, New Delhi

**Name and contact details of individual dealing with the submission**

**Name:** Shri.Dinesh Nijhawan

**Position in the organization:** Deputy Director General (A&WT)

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**List of documents submitted in support of the Qualifications File**

1. Qualification document- Telecom DTH Installation Technician.
2. Curriculum for Telecom DTH Installation Technician under Telecom Sector for Modular Employable Scheme (MES)
3. Executive Summary of Human Resource and Skill Requirements in Telecom by NSDC

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**SUMMARY**

| | | |
|---|---|---|
| **1** | **Qualification Title** | Telecom DTH Installation Technician |
| **2** | **Qualification Code, if any** | 7422.1202 : DTH Set-Top Box Installer and Service Technician |
| ***3*** | **NCO code and occupation** | TLC 101 |
| **4** | **Nature and purpose of the qualification (Please specify whether qualification is short term or long term)** | Nature of the Qualification is Certificate in job role of Telecom DTH Installation Technician<br>The purpose of the qualification is to introduction with different tools used in Telecom DTH Installation work and to promote safety measures while performing job. |
| **5** | **Body/bodies which will award the qualification** | National Council for Vocational Training (NCVT) |
| **6** | **Body which will accredit providers to offer courses leading to the qualification** | GOI Ministries and State departments who have adopted MES qualifications, accredit training providers for their programs and schemes (only in case of SDIS schemes Training providers accredited by States on behalf of NCVT) |
| **7** | **Whether accreditation/affiliation norms are already in place or not , if applicable (if yes, attach a copy)** | -NA- |
| **8** | **Occupation(s) to which the qualification gives access** | After completion of the course the trainees shall be qualified for one or more of the following job roles:<br>Telecom DTH Installation Technician. |
| ***9*** | **Job description of the occupation** | DTH Set-Top Box Installer and Service technician installs set-top boxes and provides after sales service for Direct to Home (DTH) system. The individual at work installs the set-top box at customers' premises; addresses the field serviceable complaints and co-ordinates with the technical team for activation of new connections. |
| **10** | **Licensing requirements** | -NA- |
| **11** | **Statutory and Regulatory requirement of the relevant sector (documentary evidence to be provided)** | -NA- |
| **12** | **Level of the qualification in the NSQF** | Level 3 |

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|---|---|---|
| **13** | **Anticipated volume of training/learning required to complete the qualification** | 300 Hours |
| **14** | **Indicative list of training tools required to deliver this qualification** | Mentioned in curriculum attached |
| **15** | **Entry requirements and/or recommendations and minimum age** | Passed 10th class examination& Minimum 18 years of age. |
| **16** | **Progression from the qualification (Please show Professional and academic progression)** | An individual can pursue their career in any sector for Telecom DTH Installation Technician.<br>DTH Installation Technician generally are employed by Small and big company. Individual can be able to start a start-up to provide DTH repairing facilities.<br>After experience one can be promote as a Senior DTH Technician. |
| **17** | **Arrangements for the Recognition of Prior learning (RPL)** | RPL arrangements are not planned under this qualification. |
| **18** | **International comparability where known (research evidence to be provided)** | -NA- |
| **19** | **Date of planned review of the qualification.** | 5 years after approval of the Qualification |

**20 Formal structure of the qualification**

**Mandatory components**

| | Title of component and identification code/NOSs/Learning outcomes | Estimated size (learning hours) | Level |
|---|---|---|---|
| (i) | DGT/MES/TLC/N01: Get Familiarized with the Safety Methods and Precautions | 50 | 3 |
| (ii) | DGT/MES/TLC/N02: Identification of proper Tools and Equipment used for Telecom DTH Installation. | 50 | 3 |
| (iii) | DGT/MES/TLC/N03: To install DTH at customer premises. | 100 | 3 |
| (iv) | DGT/MES/TLC/N04: To Understand basic communication skill and Etiquettes | 100 | 3 |
| | **Sub Total (A)** | 300 | |

**Optional components**

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| | Title of component and identification code/NOSs/ Learning outcomes | Estimated size (learning hours) | Level |
|---|---|---|---|
| | | | |
| | | | |
| | **Sub Total (B)** | | |
| **Total (A+B)** | | 300 | |

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## SECTION 1
## ASSESSMENT

| | |
|---|---|
| **21** | **Body/Bodies which will carry out assessment:**<br>DGT empaneled Assessing Bodies (ABs) |
| **22** | **How will RPL assessment be managed and who will carry it out?**<br>RPL arrangements are not planned under this qualification. |
| **23** | **Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, reliable and fair and show that these are in line with the requirements of the NSQF.**<br><br>**Criteria for selection of Assessment body**<br>Minimum Eligibility Criteria<br>• The applicant shall be a legal entity, registered in India.<br>• The applicant should have in last two years carried out competency / skill assessment for minimum 1000 persons or should have trained minimum 1000 persons and got tested by some agencies such as NCVT, Sector Skill Council, State, board/ council and reputed industry Association. Organizations having experience in testing of competencies would be preferred.<br>• In case more number of applications is received, preference will be given to those organizations that have trained/assessed larger number of persons.<br>• The applicant is not a Training Provider (TP) in the same sector and in same State, but it can be TP in other States, other Sectors or other scheme.<br>• The applicant shall have access to technically qualified personnel of repute and integrity in different industrial trades and technology.<br>• The applicant shall develop dedicated human resource for handling the processes in assessment process.<br>• The applicant shall declare its linkages with other organization(s), if any to ensure independence and avoid any conflict of interest.<br>• Institutions/ Firms blacklisted by any Government Department shall not be considered in this RFP.<br>• The Applicant shall provide the information and supporting documents towards their claims.<br>• Initially provisional empanelment will be awarded to the organizations based on the evaluation of eligibility of the Assessing Body based on the criteria.<br>• Based on the module and sector that will be handled by the assessor, the assessing body shall send its assessor for competency evaluation in the institutions which will be notified by DGT time to time. The assessor will be assessed to ascertain the competency to carry out competency based assessment. |

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- Final empanelment would be granted subject to the Assessing Body fulfilling the following conditions of getting the competencies of 2 assessors of each module per State evaluated in the institutes notified by the DGT. Testing charges for evaluating the competencies of the assessors will be borne by the Assessing Bodies.

**(1) Assessment process:**

The assessment process aims to test and certify the competency of the persons through Assessing Bodies who seek certification of their skills acquired informally or the persons who have been trained at the registered TPs. The competency assessment of the candidate is being done by the Assessor Competency Evaluation (ACE) qualified assessor of the independent Assessing Bodies (AB) which is not involved in training delivery, to ensure an impartial assessment. ACE is conducted to evaluate the competency of the assessor. In the assessment process, identification of competency, ways to measure the competency and deciding on the type of evidence that has to be collected are the responsibility of the Assessing bodies whereas administering the assessment and collecting the evidence and reporting the results are the responsibility of the assessors. The assessment process consists of following components:

Theory Test:

- It must assess the knowledge which is essential for a person to do the job. Without this knowledge, the person will not be able to do the job.
- The questions shall be of objective type involving selection of correct response.
- The question paper should contain sketches/ diagrams/ photographs/ drawing to overcome the problems of reading comprehension.
- The test shall be of short duration.

Practical Test:

It shall be able to test:

- Manipulative skills to handle tools and equipment.
- Speed in doing work.
- Accuracy maintained
- Quality in workmanship.
- Sequence of performance.
- Economical use of material.
- Neatness & housekeeping.
- All the competencies prescribed in the course curriculum.

The Assessment Parameters adopted during assessment:

- Knowledge of equipment, limitation of use of tools and equipment, and methods & procedure.
- Understanding of functioning of equipment & tool, criteria to be used in selecting tools for given job, and the process of measurement.
- Skill in finishing to required measurement, handling measurement & calculations, handling tools and equipment with ease, finishing neatly.
- Abilities to take corrective steps, use correct work habits, take measurements, complete the job within stipulated time, and adopt safe

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practices.
- Attitude towards the work, accurate & precise work and co-workers and supervisor.

(2) Duration of Test:
The duration of test vary according to the task. Theory test shall be of 1 hour duration and practical test for engineering trade shall be 6 to 8 hours minimum and non-engineering it shall be of 4 hours minimum. Assessing Bodies while preparing practical test shall ensure that candidate shall be tested on all the competencies prescribed in the course module.

The marking pattern and distribution of marks for the qualification are as under:

| Terminal competency | Maximum marks |
|---|---|
| Application of knowledge | 30 |
| Care for tools & equipment | 15 |
| Economic use of materials | 15 |
| Safety consciousness | 10 |
| Speed | 10 |
| Accuracy | 15 |
| Quality of workmanship | 20 |
| Amount of work | 15 |
| No. of attempts | 10 |
| Attitude | 10 |
| Total maximum marks for Practical | 150 |
| Maximum marks for theory | 50 |

(3) **Minimum pass mark:**
Minimum passing marks for Practical is 60%
Minimum pass marks for theory is 40%

**(4) Testing and certifications process for the course:**

**Pre- Assessment**
- Regional Directorate of Apprenticeship Training (RDAT) allot batches to the Assessing Bodies on rotational basis depending on the presence of assessing body in that region sector wise and the assessing body in coordination with Training Provider and assessor should confirm and schedule the assessment.
- The Assessing Body confirms the date of assessment in consultation with Training Provider and communicates to the RDAT/State.
- The Assessing Body forms a panel of ACE qualified assessors of high repute and integrity, sector wise and location wise.

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- The assessment of the candidates is done by the Assessing Bodies in designated Testing Centre (TC). The Testing Centre where the assessment is carried out and Testing Centre can be Training Center also. The Assessing Body select the TC based on the location, accessibility and the infrastructure facilities available for conducting the test.
- The testing center is approved by the RDAT incase of courses run by DGT,MSDE. Incase where the courses are run by the Sate Govt., TC is approved by State Govt.. Training conducted by other dept. at their accredited Training Centre, same training centre is designated as Testing centre.
- The Assessing Body provide details of selected TC along with skill areas in which assessment can be done at the TC, to the RDAT and respective States/UTs.
- The Assessing Bodies depute ACE qualified assessors for assessments whose details are furnished by Assessing Bodies to DGT in advance.
- Assessing Body has to communicate to the Testing Centre following:

-Details of the candidates to appear for assessment in various MES courses.
-Details of Assessors selected with their contact details.
-Requirement of infrastructure, raw material etc.
-Testing charges to be reimbursed to Testing Centre

**Preparation of assessment tools and prerequisites**:

- The assessment tools contain components for testing the knowledge, application of knowledge and demonstration of skill. The knowledge test is objective paper based test or short structured questions based. The application of knowledge is verified based on questioning or seeking response for a case. Demonstration of skill is verified based on practical demonstration by the candidate.
- The type of assessment tools to be used for assessment are to be prepared in advance by the assessing body in accordance to the guidelines as prescribed below:

- Define the performance objective – This is based on the course objectives and competency in workplace as prescribed by MES curriculum. The written tests and practical tests assess all the competencies mentioned in course curriculum.
- In case of practical test, the operations which are to be observed in case of process test (how a particular task is being carried out) are clearly mentioned and the specifications of the final product in case of product test (the task in itself).
- List of tools, infrastructure, and equipment to carry out the assessment are prepared based on the test instruments that are planned to be used.
- Written directions are given to the candidates before the task is attempted.
- Scoring system, observations and rating is prepared for each competency which is going to be assessed.

**Pre-assessment activities for Assessor at the Testing Centre**

- Verification of student credentials: The assessor check the application form submitted by the candidates and verify the photo pasted on the

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forms with candidates who are taking assessment in accordance with checklist

- Verification of testing centre for adequate infrastructure, tools and equipment: The assessor verifies the availability of infrastructure, tools and equipment for carrying out both theory and practical assessments. The minimum requirement prescribed under the MES modules is used as benchmark.
- Attendance verification: The assessor checks the attendance register of candidates and instructors until the time biometric attendance system is put in place. Once the biometric attendance system is in place, the biometric attendance of assessors along with that of trainees/candidates has to be captured during the assessment at the start as well as end of theory and practical test.
- Attendance during assessment: The assessor takes the attendance of all the students who appear for assessment after the successful verification of the student credentials and before the start of the assessment. The assessor also provides his/her attendance during start and end of the practical and theory test.
- Verification of the documents related test carried out by Training Provider/ Testing Centre (TC) for candidates who were not able to produce document in support of having passed the qualification.

**Assessment activities**

- Before the start of assessment, read out the instructions to the students.
- The written test & practical test is for fixed duration as prescribed.
- It is ensured that individual attention is given to all the candidates during the practical test.
- The assessor takes photographs during the assessment process of all the students in the testing centre, the students during theory and practical tests, practical lab/workshop showing the equipment to be used for assessment, the assessor along with the students appearing for the assessment.

**Post-assessment activities**

- The assessor consolidates all the theory and practical test papers and ensures that all the mandatory information is filled. The total score for each student should be calculated and recorded in result sheet.
- The assessor send the attendance sheet, result sheet, answer papers by courier/post to the assessing body immediately after the completion of assessment
- Uploading outcome of the assessment and photos in portal by assessing body
- Assessing body upload the results within one week of the assessment date.
- Photos taken by the assessors during assessment are sent to respective RDATs through e-mail only. Non dispatch of photos of assessment to RDAT makes assessment void. Re-assessment of such batch is done by the Assessing Bodies on their own expenses.
- Details of assessors are emailed to RDAT at the time of uploading the outcome of the assessment. Outcome of the assessment is not

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| | accepted in case details of assessors are not emailed to respective RDAT.<br>• Maintaining assessment records<br>• Publishing of results and Certificate issue<br>• RDAT verifies the outcome of the assessment, details of assessors, photos and print and sign the certificates for successful candidates and send it to the respective candidates. In case of direct candidate's assessment, the Certificates are sent to the Assessing Body.<br>• Certificates which will be issued carry photograph of the trainee, name of Training Provider, start date & end date of training and duration of training once the systems for the same are put in place.<br>• The certificate is issues under the aegis of NCVT. All the communications are done through portal. |

Please attach most relevant and recent documents giving further information about assessment and/or RPL.
Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

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**ASSESSMENT EVIDENCE**

**Complete a grid for each component as listed in "Formal structure of the qualification" in the Summary.**

*NOTE: this grid can be replaced by any part of the qualification documentation which shows the same information – i.e. Learning Outcomes to be assessed, assessment criteria and the means of assessment.*

**24. Assessment evidences**

**Title of Component:** Telecom DTH Installation Technician

| Outcomes to be assessed/NOSs to be assessed | Assessment criteria | Means of Assessment |
|---|---|---|
| DGT/MES/TLC/N01: Get Familiarized with the Safety Methods and | AO1. Demonstrate the safety precaution, first aid practice, electrical safety precautions. | Practical Test |
| | AO2. Demonstrate the protective behavior at work. | Practical Test |

| | | |
|---|---|---|
| Precautions | AO3. Demonstrate the following while work:<br>• Use of protective clothing, boots, and equipment as applicable to a task.<br>• Safety precautions and safety belts while working at site<br>• Use and store of tools and equipment's in a safe manner. | Practical Test |
| DGT/MES/TLC/N02: Identification of Proper Tools and Equipment used for Telecom DTH Installation Technician | AO1. Explain various types of DTH materials used in DTH installation work. | Theory Test |
| | AO2. Identify different tools and equipment used in DTH installation work. | Practical Test |
| | AO3. Explain the use of following:<br>• Extension Bit/Rod<br>• Slim line slot head screw drive<br>• Sprit level meter<br>• Compression tool | Theory Test |
| | AO4. What are the difference between drill machine piller and drill machine portable. | Theory Test |
| DGT/MES/TLC/N03: To install DTH at customer Premises. | AO1. Explain the process of :<br>• Call Overview<br>• Installation & Escalation<br>• Service call process<br>• Sub Process | Theory Test |
| | AO2. .Demonstrate effective troubleshooting steps of fault and repair. | Practical Test |
| | AO3. Explain various types of DTH. | Theory Test |
| | AO4. Demonstrate the procedure for connecting dish with Set Top Box(STB) | Practical Test |
| | AO5. Explain the following:<br>i. Set Top Box(STB)<br>ii. Signal to Noise Ratio(SNR)<br>iii. Bit Error Rate(BER) | Theory Test |
| | AO6. Demonstrate how to mobilize the service. | Practical Test |
| | AO1. Demonstrate to set wire from DTH to STB. | Practical Test |
| DGT/MES/JUT/N05: To Understand basic communication skill and Etiquettes | AO1. Demonstrate Telephonic etiquette - receiving transferring and making calls | Practical Test |
| | AO2. Write alphabets , words, names , cities, meanings<br>Study paragraph and understand | Practical Test |
| | AO3. Demonstrate Good customer | Practical Test |

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| | care, Positive attitude & behavior, Corporate etiquette and manners | |

**Means of assessment 1**

The assessment comprise of

- Theory Examination MCQ, VIVA Voce
- Practical assessment Role plays, Demonstration

**Pass/Fail**

The trainee is judged as pass in the qualification if minimum passing marks is obtained in each test i.e Theory and Practical.

Minimum pass mark:
Minimum passing marks for Practical is 60%
Minimum pass marks for theory is 40%

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**SECTION 2**

## 25. EVIDENCE OF LEVEL

### OPTION A

| **Title/Name of qualification/component:** Telecom DTH Installation Technician | | **Level:** 3 | |
|---|---|---|---|
| **NSQF Domain** | **Outcomes of the Qualification/Component** | **How the job role relates to the NSQF level descriptors** | **NSQF Level** |
| Process | The job holder is expected to have the knowledge and display skills in the field of work like:<br>– Knowledge of tools and other material used in DTH installation work<br>– Knowledge of the Set Top Box (STB). | The job requires the limited range of activities routine like basic knowledge of DTH components and its installation. | 3 |
| Professional knowledge | The job holder is required to have knowledge in the related field of work like:<br>– Relevant hand and power tools.<br>– repair related activities like replacement etc. with minimal damage to other systems | The job holder understands the basic facts, process and principles involved in his job role of DTH installation. | 3 |
| Professional skill | The job holder is needs to know and understand :<br>– Different types of DTH and STB<br>– Techniques related to installation of DTH.<br>– Material disposal procedure, importance of appropriate disposal of material | The job role only includes the understanding and knowledge of materials such as various types of DTH and STP and their tools. | 3 |
| Core skill | The job holder is expected to be Possess knowledge and skills regarding:<br>– Understands the customer requirement<br>– Ensure the measure for safety and precaution while performing job<br>– Explain the connection to the customer | The Job holder will able to address the customer requirement, perform the DTH installation work as per the requirement under specified place. | 3 |
| Responsibility | The job holder works under the supervision of his | The job holder works under the supervision of | 3 |

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| **Title/Name of qualification/component:** Telecom DTH Installation Technician | | **Level:** 3 | |
|---|---|---|---|
| **NSQF Domain** | **Outcomes of the Qualification/Component** | **How the job role relates to the NSQF level descriptors** | **NSQF Level** |
| | superior, as per his directions. He is responsible for his designated task as and when given by the superior. | his superiors and is responsible for his own limited work assigned. | |

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## SECTION 3
## EVIDENCE OF NEED

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| **26** | **What evidence is there that the qualification is needed? What is the estimated uptake of this qualification and what is the basis of this estimate?**<br>**Need of the Qualification:** The Make in India initiative has triggered investments in telecom sector in a big way. Manufacturers such as Foxconn, Micromax, Oppo, etc.<br>intend to invest a sum of around $6 billion. India has already surpassed the 100 million units – a promising sign that India will soon become a mobile manufacturing hub for the world. Telecom Sector there is the need to create additional skilled manpower to the tune of 47,75,500 till the end of financial year 2021-22 from the present strength of 40,04,500, meaning thereby an increase of 119.25% over the present strength in a period of five financial years.<br><br>**Industry Relevance**: List of Trade Committee members is attached in curriculum<br><br>**Usage of the Qualification**: Moreover about 199 individuals have been assessed in this course under this scheme in FY 2015-16, 2016-17 & 2017-18, which shows there is requirement of this skill in the Market.<br>About 210 candidates have been trained across country under this Course under ELST&P scheme of Rajasthan till Feb 2017.<br><br>**Estimated uptake:** Thus as per the skill gap study report of various agencies put together after an objective assessment, it is observed that the total telecom sector manpower shall grow from 4.00 million in 2016-17 to 8.78 million in 2021-22 creating additional requirement of 4.78 million (say 4.8 million approx.) in a period of five years. |

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| **27** | **Recommendation from the concerned Line Ministry of the Government/Regulatory Body. To be supported by documentary evidences**<br><br>-NA- |
| **28** | **What steps were taken to ensure that the qualification(s) does (do) not duplicate already existing or planned qualifications in the NSQF? Give justification for presenting a duplicate qualification**<br>The Qualification has been mapped with the National Qualification Register, maintained by NSDA to ensure the qualification does not duplicate. Other qualification like DTH Set-top Box Installer and Service Technician is available in NQR which has similar outcomes to this qualification. |

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| **29** | **What arrangements are in place to monitor and review the qualification(s)? What data will be used and at what point will the qualification(s) be revised or updated? Specify the review process here**<br>1) DGT interacts with training providers to gather feedback in implementation and updation of qualification.<br>2) Monitoring of results of assessments<br>3) Employer feedback will be sought post-placement<br>4) In a recent initiative, a Mentor Council (MC) for the relevant sector has been formed to review the curriculum of this qualification under the sector.<br>5) CSTARI, the research wing of DGT, reviews and updates the qualification, in consultation with industries and other stakeholders, on a regular basis.<br><br>The qualification is reviewed after every 5 years for updation according to latest Technologies and practices. |

Please attach most relevant and recent documents giving further information about any of the topics above.
Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

**SECTION 4**
**EVIDENCE OF PROGRESSION**

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|---|---|
| **30** | **What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector?**<br>***Show the career map here to reflect the clear progression***<br>An Individual has vertical pathway to promote to higher designations in an organisation. Can further undergo specialization course to excel to the higher post in jobs listed above or can start with up his/her own business.<br><br>Progression chart:<br>Telecom DTH Installation Technician > Senior Technician > Supervisor |

Please attach most relevant and recent documents giving further information about any of the topics above.
Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

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